

COMPARING CIRCUITS FOR TIME-TO-THRESHOLD A/D CONVERSION IN DIGITAL IMAGING ARRAYS

Abstract:

Inverters are efficient array-internal threshold detectors or comparators in digital imaging systems which use time-to-threshold A/D conversion, particularly CMOS image sensor arrays. The inverters compare sensor outputs to implicit inverter thresholds, with inverter outputs switching on threshold crossings. The inverters can have constituent transistors of with minimum size. Alternatively, non-minimum transistor dimensions can be selected to obtain desired threshold levels. Other logic circuits can also act as threshold detectors.